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COMPETENCIES NEEDED BY EMPLOYEES IN AGRICULTURAL-SUPPLY BUSINESSES--SALES AND SERVICE.

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DESCRIPTORS- *AGRICULTURAL SKILLS, *BUSINESS SKILLS, VOCATIONAL AGRICULTURE, *AGRICULTURAL OCCUPATIONS, EMPLOYER ATTITUDES, SURVEYS, *EDUCATIONAL NEEDS,

AS A BASIS FOR ESTABLISHING FOUR PILOT PROGRAMS IN OFF-FARM AGRICULTURAL OCCUPATIONS, COMPETENCIES NEEDED BY EMPLOYEES IN AGRICULTURAL SUPPLY BUSINESSES WERE DETERMINED BY A SURVEY OF 90 EMPLOYEES IN 65 BUSINESSES IN KENTUCKY. THE COMPETENCIES WERE GROUPED BY UNDERSTANDINGS, KNOWLEDGE, AND ABILITIES. OF 251 COMPETENCIES SURVEYED IN THE SIX MAJOR AREAS OF FEEDS, SEEDS, FERTILIZERS, AGRICULTURAL CHEMICALS, BUSINESS AND GENERAL COMPETENCIES, 146 OR 60 PERCENT WERE RATED BY 70 PERCENT OR MORE OF THE MANAGER AND ASSISTANT MANAGER INTERVIEWEES AS BEING "VERY HELPFUL." CLASS INSTRUCTION SHOULD BE GEARED TO THE COMPETENCIES NEEDED FOR SUCCESSFUL EMPLOYMENT AND TO OCCUPATIONAL EXPERIENCE TO DEVELOP THESE COMPETENCIES. TABLES PROVIDE SPECIFIC COMPETENCY RATINGS FOR EACH OF THE SIX AREAS. INTERVIEW INSTRUMENTS ARE INCLUDED. (JM)

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AGRICULTURAL-SUPPLY BUSINESSES

— SALES AND SERVICE —

Department of Agricultural Education
College of Education
University of Kentucky

1965

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COMPETENCIES NEEDED BY EMPLOYEES

IN

AGRICULTURAL-SUPPLY BUSINESSES

- SALES AND SERVICE -

A Study By
The Joint Staff In Agricultural Education

Coordinated and Directed
by

Harold Binkley

Department of Agricultural Education
College of Education
University of Kentucky

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I

INTRODUCTION

The Vocational Education Act of 1963 broadened the task of vocational education in agriculture from preparation for farming to include preparation for any occupation involving knowledge and skills in agricultural subjects. The aim of vocational agriculture was changed to include systematic instruction to prepare people for jobs in agriculture other than farming. The declaration of purpose in the Act reads:[1]

> To maintain, extend, and improve existing programs of vocational education so that persons of all ages in all communities of the state will have ready access to vocational training or retraining which is of high quality, which is realistic in light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.

Instructional requirements for agricultural education are stated in the Rules and Regulations reprinted from the Federal Register.[2]

1. The instruction deals with practical agricultural problems and includes subject matter and learning experience necessary in the production and marketing of plants and animals or their products.

2. Preparatory programs of instruction shall provide for:

   a. Directed or supervised practice in agriculture on a farm for those persons who are engaged in or preparing for farming.

   b. Practical field, laboratory, or cooperative work

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[1]U.S. Congress, Vocational Education Act of 1963, Public Law 88-210 88th Congress, December 18, 1963, p. 1.

[2]U.S. Office of Education, Administration of Vocational Education (Part 104) Federal Allotments to States (Rules and Regulations) reprinted from the Federal Register, August 28, 1964, p. 12353.

experience to assure soundness and quality of instruction for those training for other occupations involving knowledge and skills in agricultural subjects.

The Vocational Education Act of 1963 directs a significant expansion of responsibilities from those under the Smith-Hughes Act of 1917. The Act of 1917 provided Federal funds for the education of persons "who have entered upon or are preparing to enter upon the work of the farm." The aim was to train present and prospective farmers for proficiency in farming.

The 1917 provision was changed over the years, by general agreement. Vocational agriculture in recent years has not been considered as leading only to the farm. It has lead to many occupations in which proficiency in farming makes a significant contribution. Agriculture is more inclusive than farming. In recent years, prior to passage of the 1963 Act, the primary aim of vocational agriculture was "to train for proficiency in farming persons who can benefit from such proficiency." This was not adequate to meet the needs for people to be employed in the total agricultural industry.

Pilot Programs in Off-farm Agricultural Occupations

With the passage of the Vocational Education Act of 1963 the joint staff in agricultural education in Kentucky (supervisors and teacher educators) felt the need for expanding the program of vocational agriculture in the state. The staff decided to initiate a directed thrust by initiating pilot programs in off-farm agricultural occupations. These programs had as their purpose preparing 12th-grade students of vocational agriculture for jobs in agricultural-supply businesses, area of sales and service.

The staff developed a philosophy and criteria to guide its action in starting the pilot programs. After several staff meetings, the group decided to initiate four pilot programs, well spaced over the state. The pilot programs were located at Lafayette High School (central Kentucky),

Shelby County High (near Louisville), Daviess County High (mid-western part of the state), and Reidland High School (western part of the state).

The programs were designed to provide systematic instruction -- class work and practical occupational experience in agricultural-supply businesses. The class instruction was related to the occupational experience in the agricultural businesses.

The agricultural businesses in which occupational experience was provided were limited to those that sold seeds, fertilizers, feeds, agricultural chemicals, and other agricultural supplies.

Basic to curriculum development was determining the competencies needed for successful employment in this area of off-farm agricultural businesses.

Determining the Competencies Needed

Prior the the fall of 1963, many states had initiated studies to identify the hundreds of off-farm agricultural occupations. Little work had been done to determine occupational competencies needed or competency levels for various occupations. The Kentucky staff decided to determine competencies needed in the area selected for piloting.

Agricultural business concerns selling feeds, seeds, fertilizers, agricultural chemicals, and other agricultural supplies were visited and studied to determine competencies needed. The managers or assistant managers were interviewed in terms of competencies needed by individual employees in the businesses. Three basic questions were asked regarding each kind of employee:

What does this man do in the business?

What would you like him to do better than he is now doing?

What would you like him to do, which he cannot now do?

As these questions were answered, notes were made of the jobs named and comments made. Leading questions were asked to get at certain areas

or competencies that tended to be overlooked by the managers. A rather comprehensive list of competencies was named by those interviewed.

A survey instrument was developed. The instrument consisted of six major areas with the number of competencies in each area as follows:

Competency Area	Number of Competencies
Feeds	49
Seeds	38
Fertilizers	49
Agricultural chemicals	48
Business	41
General	25

In the areas of feeds, seeds, fertilizers, agricultural chemicals, and business, the competencies were broken down into: 1) understandings, 2) knowledge, and 3) abilities. The general competency area dealt only with abilities. Each competency was evaluated by each interviewee as: 1) "very helpful," "helpful," or "of little value." Copies of the survey instruments are included in the appendix.

Each staff member (supervisor and teacher educator) surveyed five agricultural businesses which sold (and/or rendered service in) feeds, seeds, fertilizers, or agricultural chemicals. A survey form was completed on each kind of employee in the business. Examples: 1) manager, 2) sales clerk, 3) field or farm representative, 4) service man, 5) bookkeeper, and 6) handyman.

Sixty-five agricultural-supply businesses were surveyed. The survey had good state-wide coverage -- each teacher educator surveyed in a different supervisory district coordinating his work with the supervisor of the district. The survey included each kind of employee in the business. However, this report includes only the positions of managers, assistant managers, field or farm representatives, sales and service personnel, clerks, cashiers, and foremen.

The sixty-five businesses employed 90 individuals whose jobs re-

quired 49 individuals to have competencies in feeds; 73 to have competencies in seeds; 70 to have competencies in fertilizers; 73 to have competencies in agricultural chemicals; 89 to have business competencies; and 90 to have certain general competencies. Survey results are presented in table form. Tabulations are made by the six competency areas.

II

COMPETENCIES IN FEEDS

Manager or assistant manager opinions were secured on 80 employees, whose jobs required competencies in feeds, in the 65 agricultural-supply businesses surveyed. Of the 49 competencies surveyed in the area of feeds, all except 17 were rated "very helpful" for 70 percent or more of their employees. The extent to which each competency rated desirable is shown in Table 1. The competencies are grouped by understandings, knowledge, and abilities.

The responses indicated that competencies in feeds were significant for successful employment in agricultural-supply businesses selling feed by all persons who have sales contact with customers.

TABLE 1

COMPETENCIES NEEDED IN FEEDS BY EMPLOYEES IN AGRICULTURAL-SUPPLY BUSINESSES

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Understanding of:			
1. The importance of good feeding practices	89	11	
2. The nutrient needs of farm animals	86	11	3
3. How feeding affects the body functions of animals	76	21	3
4. How farm animals use their feed	78	21	1
5. The place of pasture in feeding livestock	85	15	

TABLE 1--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Understanding of:			
6. Feed brands and kinds of feed for different kinds and ages of livestock	75	20	5
7. The different kinds of feed tags and what they mean	86	9	5
8. Bag preferences: paper, burlap, or print	34	38	28
Knowledge of:			
1. How to feed grain properly to different kinds of livestock	83	14	3
2. How to use protein supplements to the best advantage in feeding different kinds of livestock	87	13	
3. How to provide the minerals necessary in feeding livestock	83	14	3
4. Vitamins and feed additives for different kinds of livestock	84	15	1
5. The better methods of feeding the various kinds of farm animals	84	14	2
6. Feeds that have seasonal demands	71	24	5
7. Feed formulation -- balancing rations	77	21	2
8. Bulk feed facilities on farms of customers	58	31	11
9. Varieties of grain best suited for farming area	74	21	5
10. Animal nutrition, health, and sanitation	80	19	1
11. Local feeding practices and methods used	80	18	2
12. Livestock prices and trends	56	42	2
13. Grain prices and trends	67	31	2
14. What the competitor's product will do	50	37	13
15. Firm's sanitation products and feeding programs	80	15	5
16. Feed mill operation and transportation of feed	62	19	19
17. Mobile feed unit and how it operates	30	25	45
18. Animal diseases and parasites and their control	73	19	8
19. Feeder and watering space requirements	71	24	5

TABLE 1--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Ability to:			
1. Judge a customer's managerial and production potential	71	24	5
2. Help customers with purchase and sale of grain	68	26	6
3. Gather and use outlook information	50	40	10
4. Advise farmers on livestock selection, management, feeding, and sanitation	62	29	9
5. Communicate with farmers regardless of their education or experience on feeds and feeding problems	74	21	5
6. Analyze a farmer's credit potential and when to extend credit	80	15	5
7. Select the items to fit the farmer's operation, feed, or sanitation needs	83	13	4
8. Make on-farm contacts to sell feed	75	15	10
9. Analyze weaknesses in a customer's operation and make suggestions that are acceptable to him	62	29	9
10. Gather evidence from successful feeders for use as sales tools	60	29	11
11. Conduct a feeding survey	38	47	15
12. Help customers with production records and in determining feed efficiency, and feed costs	59	31	10
13. Distinguish between good and low quality feed grains	80	20	
14. Show honest concern over customer's not following proper feeding programs	87	12	1
15. Recognize potentially good customers	95	5	
16. Provide specific information on any merchandise handled through use of catalogues and specification sheets	70	20	10
17. Adjust formulations to individual animal nutritional requirements	80	14	6
18. Accurately compute formulations (balance) for custom mixing with various size lots of grain delivered for processing	84	11	5

TABLE 1--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Ability to:			
19. Use farm weights and scales accurately	85	10	5
20. Operate a feed mixing and grinding mill	60	20	20
21. Operate a mobile mill	23	31	46
22. Service and repair mill equipment	46	31	23

III

COMPETENCIES IN SEEDS

The responses of managers and assistant managers interviewed in the 65 agricultural-supply businesses revealed 73 persons required competencies in seeds. Of the 38 competencies requiring understanding, knowledge, and abilities all except 10 were rated "very helpful" for 70 percent or more of the employees who had sales contact with customers. The extent to which each competency was felt to be desirable is shown in Table 2. Those competency areas which were not felt to be "very helpful" for 70 percent of employees in the businesses were: seeding rates for Federal programs; seeds that have seasonal demand; seed prices and trends; judging the customer's managerial potential; determining weaknesses in customer's seeding programs; selecting seeding mixtures for the customer's operation; helping customers with production records; and adjusting corn planters, seed drills, and other equipment for planting or drilling.

Many of the competencies which were not felt to be important for successful employment in an agricultural-supply business were in the "service" area. Perhaps these businesses had not advanced to the point where they were rendering "service" to customers, but were selling them what they asked for. Customer service in seeds in some areas of the state and nation may be slow to develop. However, as agricultural-supply businesses grow larger and more complex they are likely to supply customers with services in this area of seeds. Many of the "services" in seeds may be done for the distributors by the businesses that clean, test, treat, and package seeds.

TABLE 2

COMPETENCIES NEEDED IN SEEDS BY EMPLOYEES IN AGRICULTURAL-SUPPLY BUSINESSES

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Understanding of:			
1. What is involved in producing high-quality seed	87	11	2
2. What certified seed is	85	14	1
3. Advantages of using certified seed	87	12	1
4. In general, requirements for producing certified seed	45	43	12
5. What is considered good germination (percent) for common crop and vegetable seeds	80	18	2
6. Importance of seeds being relatively free of weeds	80	18	2
7. Value of using good seed	88	11	1
8. Importance of inoculating legume seeds	80	15	5
9. The official labels (tags) on seeds	82	17	1
10. Required seeding rates, government farm programs	59	36	5
11. In general, the Kentucky Seed Law and its administration	70	25	5
Knowledge of:			
1. Adapted varieties of seed for common crops grown in the area	80	17	3
2. Weight per bushel of the seeds sold	77	18	5
3. Information shown on a seed tag and importance of same	85	15	
4. Minimum standards (pure seed-germination)	79	10	11
5. Pure seed tolerances for purity, germination, and noxious-weed seeds	80	9	11
6. Seeds that have seasonal demands	69	26	5
7. Pasture seeding mixtures adapted to the area	71	24	5
8. Seeding rates for alfalfa, sudan grass, brome, and other grasses	70	23	7
9. Seeding mixtures and rates for various kinds of cover crops	71	24	5
10. Nutritional requirements for different crops	70	20	10

TABLE 2--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Knowledge of:			
11. Local seeding practices, including weaknesses	71	23	6
12. Seed prices and trends	48	46	6
13. Chemicals used to control weeds and diseases	75	17	8
Ability to:			
1. Judge the customer's managerial and production potential	54	34	12
2. Help customers with purchase (and sale) of seed	71	20	9
3. Communicate with farmers regardless of their education on seeds and seeding programs	70	21	9
4. See weaknesses in the customer's seeding programs and make suggestions for improving	67	23	10
5. Select seeding mixtures to fit the customer's operation	68	20	12
6. Gather evidence from successful farmers on seeding operations	56	31	13
7. Help customers with production records and efficiency of production	36	41	23
8. Distinguish between good and low quality seed and show the farmer the difference	80	18	2
9. Take two different sacks of seed and on basis of price, purity, and germination, determine which is the best buy	75	18	7
10. Show an honest concern over customers not using good seed and not following good seeding practices	80	15	5
11. Recognize potentially good customers	88	7	5
12. Use farm weights and scales accurately	88	7	5
13. Inoculate seed for the farmer	60	24	16
14. Adjust corn planters, seed drills, and other equipment for planting, drilling, or sowing at given rates	36	44	20

IV

COMPETENCIES IN FERTILIZERS

The value rating of competencies in fertilizers needed by employees in agricultural-supply businesses by the managers and assistant managers varied as shown in Table 3. Seventy managers or assistant managers evaluated 49 competencies in this area. Of the 49 competencies involving understandings, knowledge, and abilities, 18 were rated "very helpful" by 70 percent of the managers for their employees. All competencies were rated "very helpful" or "helpful" by 70 percent of managers. An examination of the 31 competencies, which were not rated "very helpful," revealed that many were of a technical nature, requiring abilities for rendering "service" in fertilizers. Perhaps the agricultural businesses surveyed had not moved to rendering "service" to farmers at an advanced or technical level.

TABLE 3

COMPETENCIES NEEDED IN FERTILIZERS BY EMPLOYEES IN AGRICULTURAL-SUPPLY BUSINESSES

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Understanding of:			
1. The importance of fertilizers in modern farming	84	15	1
2. The trends of fertilizers used in Kentucky	80	16	4
3. Sources of information on fertilizers and how to use them. Example: U of K's chart on kind and amount of fertilizer to use on various crops	80	17	3

TABLE 3--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Understanding of:			
4. Mixed and straight fertilizers	80	17	3
5. How the physical properties of a soil affects its ability to produce	50	43	7
6. The chemical nature of the soil and how this affects the soil's ability to produce	63	30	7
7. The extent to which the soil may supply the nutrients needed for high crop yields	63	30	7
8. The nutrients that are likely to limit crop yields and the order of limitation	64	30	6
9. The trace elements needed for crops in the state	51	42	7
10. The insecticides that are added in fertilizers	70	24	6
11. Fertilizer brands and their selection	43	41	16
12. Bulk and bag preferences and comparative costs	43	27	30
13. Governmental farm programs that help pay fertilizer costs	70	27	3
14. Fertilizers that have seasonal demands	71	25	4
Knowledge of:			
1. Bulk fertilizer facilities in the area	33	46	21
2. Local fertilizer practices	60	37	3
3. Fertilizer uses and trends	61	33	6
4. Chemicals used in fertilizers	63	30	7
5. General crop farming	63	37	
6. What the competitor's fertilizers will do	40	40	20
7. Insects and diseases that can be controlled by chemical additives to fertilizers	73	24	3
8. Advantages of using high-quality fertilizers over low quality	84	16	
Ability to:			
1. Judge the customer's managerial and productive potential	66	27	7
2. Evaluate a farmer's fertilizer program for his various crops and determine weaknesses	67	26	7

TABLE 3--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Ability to:			
3. Make suggestions acceptable to the farmer for improving his use of fertilizers	79	18	3
4. Communicate with farmers regardless of their education or experience in using fertilizers	80	17	3
5. Analyze a farmer's credit potential and when to extend credit	78	13	9
6. Show a farmer what is involved in "fixed cost" and what increased fertilizer (a variable cost) will mean in additional yields and profit	76	18	6
7. Take a soil sample	50	37	13
8. Show a farmer how to take a soil sample	52	36	12
9. Interpret the results of a soil test	47	40	13
10. Explain the amounts of nitrogen (N), phosphorus (P), and potassium (K) needed for high crop yields of various crops	63	33	4
11. Explain how a deficiency in one nutrient may limit crop yields	66	30	4
12. Select and explain to the farmer the kind and amount of fertilizer to apply based on soil test	71	25	4
13. Adjust fertilizer analysis to particular crop nutrient requirements	66	28	6
14. Gather evidence from successful farmers on use of fertilizers for use as sales tools	60	36	4
15. Conduct a "fertilizer use" survey	30	45	25
16. Help customers with crop-production records	42	52	6
17. Show honest concern over customers not following good fertilizer practices	74	33	3
18. Recognize potentially good customers	90	10	
19. Explain the desirable level of soil alkalinity (PH) needed for common crops grown in the community	66	24	10
20. Explain the lime needs for high crop yields	66	27	7

TABLE 3--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Ability to:			
21. Explain the tons of lime to apply based on soil test for certain types of soil	60	23	17
22. Explain the need for very little (if any) nitrogen in fertilizers used on legume crops	66	27	7
23. Explain the need for inoculating legumes	71	25	4
24. Adjust a "dry" fertilizer spreader to a specified rate and apply fertilizer	51	36	13
25. Compute and explain cost for given fertilizer applications	66	24	10
26. Compute and explain cost for a given rate of lime application	52	34	14
27. Make on-farm contacts for studying fertilizer needs and making sales	48	39	13

V

COMPETENCIES IN AGRICULTURAL CHEMICALS

Competencies in understandings, knowledge, and abilities in agricultural chemicals are more complex than the other areas dealt with. Table 4 shows these results. Of the 48 competencies rated by the 73 interviewees, 29 were rated "very helpful" for 70 percent of employees. Of those not rated "very helpful" a number had to do with fruits and animals that had a limited area of importance. For example: knowledge of spray schedules for small fruits and control of parasites in sheep and poultry are needed in only a small area of Kentucky. Others were of a technical nature which was perhaps beyond the vision of the business to render "service" at the time the survey was conducted. No doubt, in the future, employees in agricultural-supply businesses that sell agricultural chemicals will need to possess more "service" competencies.

TABLE 4

COMPETENCIES NEEDED IN AGRICULTURAL CHEMICALS BY EMPLOYEES IN AGRICULTURAL-SUPPLY BUSINESSES

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Understanding of:			
1. The insecticides, fungicides, herbicides that are dangerous to handle or breathe	92	8	
2. The importance of following the safety precautions on the label	93	7	

TABLE 4--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Understanding of:			
3. The four keys to agricultural chemical safety--reading the label, storing materials, applying and disposing of empty containers	92	8	
4. The importance of following the manufacturer's instructions for mixing and applying	92	8	
5. The eating habits of common insects - which insects eat by chewing and which by sucking	71	26	3
Knowledge of:			
1. What makes for a good pest control program -- timeliness, thoroughness, good equipment, and proper materials	80	18	2
2. The general principles for chemical insect control -- identifying the insect, selecting the materials, mixing the materials, and applying	63	35	2
3. The general principles for control of plant diseases	64	33	3
4. The general principles or rodent control	62	35	3
5. The general principles for use of herbicides	73	26	1
6. Spraying equipment and how to use	74	26	
7. Where to find definitions of agricultural chemical terms	63	34	3
8. Latest University of Kentucky publications which give recommendations on: controlling insects in field corn, sorghums, and small grains	62	33	5
9. Controlling insects in alfalfa, clover, and soybeans	64	31	5
10. Controlling insects in tobacco fields	90	5	5
11. Controlling insects in tobacco beds	90	5	5
12. Controlling insects on beef and nonlactating dairy animals	75	20	5
13. Controlling insects on lactating dairy cows	75	19	6
14. Controlling insects on swine	73	22	5
15. Controlling insects on sheep	62	26	12

TABLE 4--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Knowledge of:			
16. Controlling insects on poultry	61	27	12
17. Controlling weeds in various field crops	72	25	3
18. Spray schedules for small fruit	35	34	31
19. Spray schedules for large fruit	38	27	35
20. Controlling parasites and diseases in dairy cattle	80	14	6
21. Controlling parasites and diseases in beef cattle	80	14	6
22. Controlling parasites and diseases in hogs	80	14	6
23. Controlling parasites and diseases in sheep	70	18	12
24. Controlling parasites and diseases in poultry	71	19	10
Ability to:			
1. Recognize the common chewing insects	57	39	4
2. Recognize the common sucking insects	57	39	4
3. Recognize effects of certain diseases--blue mold, wildfire, mosaic, and brown rot on tobacco	60	35	5
4. Recognize the symptoms of common insects on cattle	60	35	5
5. Furnish specific information on control of insects, diseases, and rodents	72	25	3
6. Recognize the symptoms of common diseases and parasites in various kinds of livestock	72	21	7
7. Use catalogues, publications, and charts to determine materials to use to meet specific needs of the farmer	60	35	5
8. Judge a customer's production problems as it pertains to use of agricultural chemicals	62	32	6
9. Advise farmers on selection and use of the various agricultural chemicals	72	21	7
10. Communicate with farmers regardless of their education on use of agricultural chemicals	80	18	2
11. Help a farmer select the agricultural chemicals to meet his particular needs	75	23	2

TABLE 4--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Ability to:			
12. Handle leaky or broken containers	64	34	2
13. Interpret safety instruction on the container	81	19	
14. Interpret the directions on the container	82	18	
15. Use spray equipment -- to adjust and service spray	70	30	
16. Figure percentages on mixtures for different rates of applications for agricultural chemicals	64	36	
17. Adjust size of spray nozzles, psi to rate of speed to give a given rate of application per acre	51	42	7

VI

BUSINESS COMPETENCIES

There were 89 managers and assistant managers in the 65 agricultural-supply businesses that rated the business competencies needed by their employees. Of the 41 business competencies involving understanding, knowledge, and abilities, 26 were rated "very helpful" for 70 percent or more of the employees. Table 5 shows these results. Of the 15 competencies not rating "very helpful" many were of a technical nature or were jobs performed by the manager or his assistant. These competencies, while needed by the managers and assistant managers of the businesses, were not needed by the employees.

TABLE 5

BUSINESS COMPETENCIES NEEDED BY EMPLOYEES IN AGRICULTURAL-SUPPLY BUSINESSES

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Understanding of:			
1. A business operation	76	24	
2. How a distributive business is organized	56	37	7
3. The accounting system of the store	56	28	16
4. The "daily business summary"	38	38	24
5. The records of accounts receivable	53	23	24
6. The importance of pleasing the customer	97	3	
7. The importance of meeting the public	97	3	

TABLE 5--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Understanding of:			
8. How to make displays	43	52	5
Knowledge of:			
1. The principles of salesmanship	84	14	2
2. How to meet and establish customer relations	85	14	1
3. Seller's English (pleasant and correct)	73	26	1
4. How to create effective sales presentation	74	22	4
5. Suggestive selling	74	23	3
6. How to overcome the "no" customer	72	24	4
7. How to overcome sales obstacles	73	24	3
8. The products sold by the business	98	2	
9. How the use of the products will save or make the customer money	91	9	
Ability to:			
1. Meet the public	97	3	
2. Make sales contacts at school and community functions	46	45	9
3. Make on-farm contacts	57	36	7
4. Sell a customer what he needs, not just sell	91	9	
5. Not pose as an expert when he is not sure, but to ask one who does know	93	7	
6. Serve farm people -- genuine desire	93	7	
7. Like people, not to have a fear of people	96	4	
8. Sell	87	12	1
9. Use good telephone procedure	79	19	2
10. Fill orders	91	9	
11. Deliver supplies without errors	94	4	2
12. Check incoming freight	72	19	9
13. Mark merchandise for sale	51	41	8
14. Make basic mathematical calculations accurately	96	4	
15. Write and make legible figures	97	2	1
16. Use an adding machine	51	39	10

TABLE 5--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Ability to:			
17. Use a computer	25	29	46
18. Write sales slips	89	7	4
19. File	43	28	29
20. Make and keep inventory records	51	33	16
21. Prepare advertising	33	43	24
22. Write sales letters	32	34	34
23. Project business and profits	40	30	30
24. Be thoughtful -- not forgetful	96	4	

VII

GENERAL COMPETENCIES

The 65 managers and assistant managers rated 91 employees in the area of general competencies. Table 6 shows the results. Of the 23 competencies listed, all except two were rated by 85 percent or more of the employers as being "very helpful" to their employees in the successful operation of their businesses. This is a significant list of general competencies needed by employees in agricultural-supply businesses. Even though they are not necessarily agricultural in nature, they have a great bearing on one's successful employment in an agricultural-supply business.

TABLE 6

GENERAL COMPETENCIES NEEDED BY EMPLOYEES IN AGRICULTURAL-SUPPLY BUSINESSES

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Ability to:			
1. Accept and carry out responsibilities	98	2	
2. Maintain a good personal appearance	86	14	
3. Have a good attitude toward:			
a. Customers	98	2	
b. Fellow workers	93	7	
c. Supervisors	93	5	2
4. Be honest	98	2	
5. Have initiative	93	7	
6. Have enthusiasm	93	7	

TABLE 6--Continued

Competency	Extent Competency was Desirable		
	Percent		
	Very Helpful	Helpful	Of Little Value
Ability to:			
7. Be prompt in reporting for work	93	7	
8. Have foresight and plan ahead	90	10	
9. Be attentive at work	95	5	
10. Be accurate in work	95	5	
11. Care for work space or area (keep neat, straight, and orderly)	85	15	
12. Care for materials, tools, and equipment	90	10	
13. Make effective use of working time	95	5	
14. Develop speed and accuracy in work	91	9	
15. Follow instructions	94	6	
16. Direct and supervise others	70	20	10
17. Be cheerful	85	13	2
18. Make basic mathematic calculations accurately	94	6	
19. Use correct English	66	31	3
20. Write legibly and make distinct figures	98	2	
21. Be careful with property on farms, fields-gates-equipment	81	10	9
22. Practice safety	95	5	
23. Drive a car - truck safely	93	7	

VIII

SUMMARY

This study dealt with the competencies needed for successful employment in agricultural-supply businesses which sold or rendered service in feeds, seeds, fertilizers, agricultural chemicals, and other agricultural supplies.

Of the 251 competencies surveyed, in the six major areas of feeds, seeds, fertilizers, agricultural chemicals, business competencies, and general competencies, 146 or approximately 60 percent were rated by 70 percent or more of the manager or assistant manager interviewees as being "very helpful" for their employees. Table 7 shows a summary of competencies, by areas, which were rated "very helpful."

TABLE 7

NUMBER OF COMPETENCIES BY AREAS AND NUMBER OF COMPETENCIES RATED "VERY HELPFUL" BY 70 PERCENT OR MORE OF THE MANAGERS AND ASSISTANT MANAGERS INTERVIEWED

Competency Area	Number of Competencies	Number of Competencies Rated "very helpful" by 70 Percent of Managers
Feeds	49	32
Seeds	38	28
Fertilizers	49	18
Agricultural chemicals	48	19
Business	41	26
General	25	23

A careful study of the ratings of the 251 competencies by managers and assistant managers in the 65 agricultural-supply businesses has much to offer for content in course building. Teachers of agriculture can

pull from the ratings of competencies in the six areas of 1) feeds, 2) seeds, 3) fertilizers, 4) agricultural chemicals, 5) business, and 6) general those considered most important for successful employment and can build a course of study to develop these competencies. A teacher should modify these competencies to meet the needs of the students and the businesses that are available for supervised occupational experience.

Class instruction should be geared to the competencies needed for successful employment in agricultural-supply businesses and the opportunity for supervised occupational experience to develop these competencies.

APPENDIX

FORM A

AGRICULTURAL-SUPPLY BUSINESS SURVEY

Interviewer _____

Date _____

Note: Survey is limited to agricultural-supply businesses which sell feeds, seeds, fertilizers, agricultural chemicals, and other agricultural supplies.

I. General Information

A. Name of business _____

B. Address _____

C. Name of person interviewed _____

D. Position of the person interviewed _____

E. Check the items which the business sells and/or renders "customer service" in (Check all that apply)

_____ 1. Sells fertilizer

_____ 2. Sells seeds

_____ 3. Sells chemicals

_____ 4. Sells feed

_____ 5. Custom service in fertilizers

_____ 6. Custom service in seeds

_____ 7. Custom service in chemicals

_____ 8. Custom service in feeds

II. Employee Information

A. Total number _____

B. Information on present positions in the business which require (or is highly desirable) a high-school education. Do not list the jobs that require a college degree or those that require only an eighth-grade education or less.

Kind of Job or Position	Number of Employees	Competencies in Agriculture Needed (Yes or No)
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____

FORM B

AGRICULTURAL-SUPPLY BUSINESS SURVEY

Note: This survey is limited to competencies which include understandings, knowledge, and abilities needed for successful employment in an agricultural-supply business which sells feeds, seeds, fertilizers, agricultural chemicals, and other agricultural supplies.

Kind of job or position title _____

Number of people holding this kind (or similar) of job _____

I. COMPETENCIES IN FEEDS

Competency or Ability	Extent the Competency is Desirable (Check the appropriate column)		
	Very Helpful	Helpful	Of Little Value
*Understanding of:			
1. The importance of good feeding practices			
2. The nutrient needs of farm animals			
3. How feeding affects the body functions of animals			
*Knowledge of:			
1. How to feed grain properly to various kinds of livestock			
2. How to use protein supplements to the best advantage in feeding different kinds of livestock			
3. How to provide the minerals necessary in feeding livestock			
*Ability to:			
1. Judge a customer's managerial and production potential			
2. Select the items to fit the customers operation			
3. Communicate with farmers regardless of their education or experience in feeds and feeding problems			

*Only a few selected competencies are listed. For a complete list of competencies, by areas, see body of the study.